

What is claimed is:

1 1. A floor sweep assembly for a grain dryer, comprising:
2 a framework which is rotatable around a central axis;
3 a wiper positioned relative to said framework such that, when said floor
4 sweep assembly is viewed in a plan view, said framework defines a first
5 intersection with said wiper; and
6 a first spacer attached to both said framework and said wiper in a manner
7 which causes said framework to be spaced apart from said wiper.

1 2. The assembly of claim 1, wherein:
2 said framework includes a first primary support member which extends
3 radially outwardly relative to said central axis,
4 said first primary support member is positioned relative to said wiper such
5 that, when said floor sweep assembly is viewed in said plan view, said first
6 primary support member defines said first intersection with said wiper,
7 said first spacer is interposed between said first primary support member
8 and said wiper;
9 said first spacer is attached to said first primary support member,
10 said wiper is attached to said first spacer, and
11 said first primary support member is located vertically above said wiper.

1 3. The assembly of claim 1, further comprising a second spacer, wherein:
2 said framework includes (i) a first primary support member which extends
3 radially outwardly relative to said central axis, (ii) a second primary support
4 member which extends radially outwardly relative to said central axis, and (iii) an
5 ancillary support member which is spaced apart from said central axis and
6 extends between said first primary support member and said second primary
7 support member,

8 said first primary support member is positioned relative to said wiper such
9 that, when said floor sweep assembly is viewed in said plan view, said first
10 primary support member defines said first intersection with said wiper,

11 said ancillary support member is positioned relative to said wiper such
12 that, when said floor sweep assembly is viewed in said plan view, said ancillary
13 support member defines a second intersection with said wiper,

14 said first spacer is further attached to said first primary support member
15 and said wiper in a manner which causes said first primary support member to
16 be spaced apart from said wiper, and

17 said second spacer is attached to said ancillary support member and said
18 wiper in a manner which causes said ancillary support member to be spaced
19 apart from said wiper.

1 4. The assembly of claim 1, wherein:

2 X = the closest distance between said framework and said wiper, and
3 $X > 2.0$ inches.

1 5. The assembly of claim 1, wherein no portion of said wiper contacts
2 said framework.

1 6. The assembly of claim 1, wherein:
2 said first spacer is attached to said framework with a number of first
3 fasteners, and
4 said wiper is attached to said first spacer with a number of second
5 fasteners.

1 7. A floor sweep and motor assembly for a grain dryer, comprising:
2 a motor;
3 a support member which is driven by said motor;
4 a wiper positioned relative to said support member such that, when said
5 support member and said wiper are viewed in a plan view, said support member
6 defines an intersection with said wiper; and
7 a spacer attached to both said support member and said wiper in a
8 manner which causes said support member to be spaced apart from said wiper.

1 8. The assembly of claim 7, wherein:
2 said spacer is interposed between said support member and said wiper,
3 and
4 said support member is located vertically above said wiper.

1 9. The assembly of claim 8, wherein:
2 said spacer is attached to said support member with a number of first
3 fasteners, and
4 said wiper is attached to said spacer with a number of second fasteners.

1 10. The assembly of claim 7, wherein:
 2 said motor drives said support member around a central axis, and
 3 said support member extends radially outwardly relative to said central
 4 axis.

1 11. The assembly of claim 7, wherein:
 2 $X =$ the closest distance between said support member and said wiper,
 3 and
 4 $X > 2.0$ inches.

1 12. The assembly of claim 7, wherein no portion of said wiper contacts
 2 said support member.

1 13. A method of advancing grain in a grain dryer with a floor sweep
 2 assembly, with (i) the floor sweep assembly including a support member and a
 3 wiper, and (ii) the wiper being positioned relative to the support member such
 4 that, when the floor sweep assembly is viewed in a plan view, the support
 5 member defines an intersection with said wiper, comprising the steps of:
 6 rotating the floor sweep assembly so that the support member and the
 7 wiper are rotated in a path of movement; and
 8 maintaining a space between the support member and the wiper at the
 9 intersection such that no portion of the wiper contacts the support member
 10 during the rotating step.

1 14. The method of claim 13, further comprising the step of:
 2 advancing grain into the path of movement so that the wiper contacts the
 3 grain during the rotating step.

1 15. The method of claim 14, wherein:

2 the grain dryer further includes (i) a grain shelf floor having a hopper
3 opening defined therein, and (ii) a wall having a grain drying space defined
4 therein;

5 the advancing step includes the step of advancing the grain from the grain
6 drying space onto the grain shelf floor; and

7 the rotating step includes the step of pushing the grain on the grain shelf
8 floor with the wiper until the grain falls through the hopper opening.

1 16. The method of claim 15, wherein:

2 the grain dryer further includes a motor, and

3 the rotating step includes the step of rotating the floor sweep assembly in
4 the path of movement with the motor.

1 17. The method of claim 13, wherein:

2 X = the closest distance between the support member and the wiper, and

3 $X > 2.0$ inches.

1 18. A floor sweep assembly for a grain dryer, comprising:
2 a framework which is rotatable around a central axis, wherein said
3 framework includes (i) a first primary support member which extends radially
4 outwardly relative to said central axis, (ii) a second primary support member
5 which extends radially outwardly relative to said central axis, and (iii) an ancillary
6 support member which is spaced apart from said central axis and extends
7 between said first primary support member and said second primary support
8 member;

9 a wiper positioned relative to said framework such that, when said floor
10 sweep assembly is viewed in a plan view, said framework and said wiper define
11 (i) a primary intersection of said wiper and said first primary support member,
12 and (ii) an ancillary intersection of said wiper and said ancillary support member;

13 a first spacer attached to said first primary support member and said wiper
14 in a manner which causes said first primary support member to be spaced apart
15 from said wiper, and

16 a second spacer attached to said ancillary support member and said
17 wiper in a manner which causes said ancillary support member to be spaced
18 apart from said wiper.

1 19. The assembly of claim 18, wherein:
2 said first primary support member is located vertically above said wiper,
3 and
4 said ancillary support member is located vertically above said wiper.

1 20. The assembly of claim 18, wherein:

2 $X =$ the closest distance between said framework and said wiper, and

3 $X > 2.0$ inches.

1 21. The assembly of claim 18, wherein no portion of said wiper contacts
2 said framework.

1 22. A grain dryer, comprising:

2 a wall assembly having (i) an inner wall and an outer wall which defines a
3 grain flow path therebetween, and (ii) a discharge slot defined in said wall
4 assembly through which grain may flow;

5 a grain shelf floor positioned relative to said wall assembly such that grain
6 flowing through said discharge slot advances onto said grain shelf floor;

7 a floor sweep assembly positioned vertically above said grain shelf floor,
8 said floor sweep assembly having (i) a support member, and (ii) a wiper
9 positioned relative to said support member such that, when said floor sweep
10 assembly is viewed in a plan view, said support member defines an intersection
11 with said wiper;

12 a motor for rotating said floor sweep assembly about a central axis; and

13 a spacer attached to both said support member and said wiper in a
14 manner which causes said support member to be spaced apart from said wiper.

1 23. The assembly of claim 22, wherein said support member is located
2 vertically above said wiper.

1 24. The assembly of claim 22, wherein:
2 $X =$ the closest distance between said support member and said wiper,
3 and
4 $X > 2.0$ inches.

1 25. The assembly of claim 22, wherein no portion of said wiper contacts
2 said support member.